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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Masaaki Araki

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EXAMINER

ALMEIDA, CORY A

ART UNIT

PAPER NUMBER

2629

NOTIFICATION DATE

DELIVERY MODE

10/14/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/057,973	<b>Applicant(s)</b> ARAKI ET AL.	
	<b>Examiner</b> CORY A. ALMEIDA	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1, 2, 4-9, and 12-19 are pending.

Claims 3, 10, and 11 are cancelled.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/4/2010 has been entered.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-9, 12-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara, US-5329390 in view of Kostecki, US- 6118572.

4. In regards to claim 1, Fujiwara discloses an image record medium (Abstract) comprising an image record layer (Fig. 1, 17) on which an image is recorded upon application of exposure light (Fig. 1, L1, Col. 5, 15-30), and a functional layer (Fig. 1, 14) formed on one side of the image record layer (Fig. 1) and having a function of transmitting the exposure light (Col. 5, 15-30) and transmitting 10% or less of visible

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light (Col. 3, 46-61), wherein the functional layer transmits the exposure light from an incidence side of the exposure light to the image record layer on an opposite side to the incidence side at least when the exposure light is applied (Fig. 1, Col. 5, 15-30); and the functional layer shields visible light when the image recorded on the image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a wavelength range of the exposure light being outside a visible wavelength range.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki with Fujiwara to obtain the invention specified in claim 1.

5. In regards to claim 2, Fujiwara discloses the functional layer has a function of transmitting exposure light in a predetermined wavelength range (Col. 4, 5-27).

6. In regards to claim 4, Fujiwara discloses the image record layer has a display layer whose optical characteristic changes upon application of voltage (Fig. 1, 17) and a photoconductive layer whose electric characteristic changes upon application of the exposure light representing the image (Fig. 1, 13, Col. 3, 34-46).

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7. In regards to claim 5, Fujiwara discloses an image record apparatus (Abstract), comprising a light application section for applying exposure light to a plurality of image record media (Fig. 1, L1), a voltage application section for applying an image write voltage to each of the plurality of image record media (Fig. 1, 18), and a control section for controlling the light application section and the voltage application section so that exposure light representing an image is applied to the plurality of placed image record media and the image write voltage is applied to the image record medium on which the same visible image as the image is to be recorded (Col. 1, 15-30), wherein the plurality of image record media each for recording an image upon application of exposure light and application of a voltage and each having an image record layer (Fig. 1, 17) on which an image is recorded upon application of exposure light and a functional layer (Fig. 1, 13) formed on one side of the image record layer (Fig. 1) and having a function of transmitting the exposure light (Col. 3, 15-30) and transmitting 10% or less of visible light (Col. 3, 46-61) are stacked on each other for placement to record a visible image on each of the image record media stacked on each other for placement (Col. 3, 15-30), wherein the functional layer transmits the exposure light from an incidence side of the exposure light to the image record layer on an opposite side to the incidence side at least when the exposure light is applied (Fig. 1, Col. 5, 15-30); and the functional layer shields visible light when the image recorded on the image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a wavelength range of the exposure light being outside a visible wavelength range.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki with Fujiwara to obtain the invention specified in claim 5.

8. In regards to claim 6, Fujiwara discloses the control section controls the light application section and the voltage application section so that exposure light is applied to the plurality of placed image record media and the image write voltage is applied to the plurality of placed image record media at the same time to record the same visible image on each of the image record media by using the transmitted exposure light, which is transmitted through the functional layer (Col. 3, 15-30).

9. In regards to claim 7, Fujiwara discloses the control section controls the light application section and the voltage application section so that an image write process of applying the exposure light representing an image to the plurality of placed image record media and applying the image write voltage to the image record medium on which the same visible image as the image is to be recorded is repeated while changing to exposure light representing a different image and applying the image write voltage to a different image record medium are being conducted, thereby recording each visible image on each of the image record media (Col. 3, 15-30).

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10. In regards to claim 8, Fujiwara discloses the control section controls the light application section and the voltage application section so as to reset to record a uniform initial image on the image record medium before the visible image is recorded on the image record medium (Col. 5, 45 – Col. 6, 2).

11. In regards to claim 9, Fujiwara discloses an image record medium (Abstract) comprising first and second image record layers (Fig. 1, 11A and B) on which an image is recorded upon application of exposure light (Fig. 1, L1), and a functional layer formed on one side of the image record layer (Fig. 1, 14) and having a function of transmitting the exposure light (Col. 5, 15-30) and transmitting 10% or less of visible light (Col. 3, 46-61), the functional layer transmits the exposure light from the first image record layer to the second record layer at least when the exposure light is applied (Col. 5, 15-30), the functional layer shields visible light from the first record layer to the second image record layer when the image recorded on the second image record layer is observed (Col. 3, 46-61) and the functional layer shields visible light from the second record layer to the first image record layer when the image recorded on the first image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a wavelength range of the exposure light being outside a visible wavelength range.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki with Fujiwara to obtain the invention specified in claim 9.

12. In regards to claim 12, Fujiwara discloses each of the first and second image record layers has a display layer (Fig. 1, 16, 17) whose optical characteristic changes upon application of voltage and a photoconductive layer whose electric characteristic changes upon application of the exposure light representing the image (Fig. 1, 13, Col. 3, 34-46).

13. In regards to claim 13, Fujiwara discloses the display layers of the first and second image record layers differ in threshold voltage for changing the optical characteristic (the dielectric and LCD material would have different threshold voltages).

14. In regards to claim 14, Fujiwara discloses an image record apparatus for recording a visible image on an image record medium (Abstract), comprising: an exposure section for applying exposure light to an image record medium (Fig. 1, L1), a voltage application section for applying an image write voltage to the image record layer forming a part of the image record medium (Fig. 1, 18), and a write control section (Col. 5, 15-30), wherein the image record medium is recorded the image thereon upon application of the exposure light and application of the voltage (Col. 5, 15-30), the image record medium comprises first and second image record layers (Fig. 1, 11A and B) on which the image is recorded upon the application of exposure light (Col. 5, 15-30), and a functional layer (Fig. 1, 14) formed on one side of the image record layer (Fig. 1) and



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having a function of transmitting the exposure light (Col. 5, 15-30), transmitting 10% or less of visible light (Col. 3, 46-61), and the write control section controls the exposure section and the voltage application section so that when a visible image is recorded on the first image record layer on a front surface side close to the exposure section, exposure light representing the image to be recorded on the first image record layer is applied to the image record medium and write voltage and voltage improper to write are applied to the first image record layer and the second image record layer on a rear surface side away from the exposure section respectively (Col. 5, 15-30), and that when a visible image is recorded on the second image record layer on the rear surface side, exposure light representing the image to be recorded on the second image record layer is applied to the image record medium and write voltage and voltage improper to write are applied to the second image record layer and the first image record layer, respectively (Col. 5, 45 - Col. 6, 2), the functional layer transmits the exposure light from an incidence side of the exposure light to the image record layer on an opposite side to the incidence side at least when the exposure light is applied (Fig. 1, Col. 5, 15-30); and the functional layer shields visible light when the image recorded on the image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a wavelength range of the exposure light being outside a visible wavelength range.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki with Fujiwara to obtain the invention specified in claim 14.

15. In regards to claim 15, Fujiwara discloses the exposure section changes a light amount of the exposure light when a visible image is recorded on the first image record layer of the placed image record medium (Col. 5, 15-30) and when a visible image is recorded on the second image record layer (Col. 5, 45 - Col. 6, 2).

16. In regards to claim 16, Fujiwara discloses the write control section controls the exposure section and the voltage application section so that a visible image is first recorded on the second image record layer of the placed image record medium and a visible image is next recorded on the first image record layer (Col. 5, 45 - Col. 6, 2).

17. In regards to claim 17, Fujiwara discloses before a visible image is recorded on the second image record layer of the placed image record medium, the electric voltage section applies reset voltage for resetting to record a uniform initial image at least to the first image record layer of the first and second image record layers (Col. 6, 11-36).

18. In regards to claim 19, Fujiwara discloses when applying exposure light representing an image to the second image record layer, the exposure section applies exposure light representing a mirror image of the visible image to be recorded on the second image record layer to the image record medium (Col. 5, 45 - Col. 6, 2).

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19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara, US-5329390 and Kostecki, US-6118572 in view of Baraff, US-4223308.

Fujiwara and Kostecki disclose the voltage application section records a visible image on the second image record layer while applying voltage to the first image record layer (Col. 5, 15-30).

Fujiwara and Kostecki do not disclose expressly each of the first and second image record layers has a display layer made of a cholesteric liquid crystal whose optical characteristic changes upon application of voltage for recording a visible image.

Baraff discloses cholesteric liquid crystal and electrochromic material can be used interchangeably (Col. 5, 5-12) and whose optical characteristic changes upon application of voltage for recording a visible image (Abstract).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art that one could use cholesteric liquid crystal instead of liquid crystal or dielectric material.

The motivation for doing so would have been that liquid crystal is more widely used in consumer electronic apparatuses providing greater flexibility and accessibility for manufacturers.

Therefore, it would have been obvious to combine Baraff with Fujiwara and Kostecki to obtain the invention as specified in claim 18.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, 4-9, and 12-19 have been considered but are moot in view of the new ground(s) of rejection, as presented above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORY A. ALMEIDA whose telephone number is (571) 270-3143. The examiner can normally be reached on Monday through Friday 8AM to 4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CA/

9/28/2010

/Kevin M Nguyen/

Primary Examiner, Art Unit 2629